California Greenhouse Gas Emission Trends and Selected Policy Options

Climate Change Advisory Committee
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Advisory Committee Charter

- State legislation calls for recommendations to the Energy Commission (Senate Bill 1771, Chapter 1018, Statutes of 2000).

- Existing law: recommend the most equitable and efficient ways to implement international and national climate change requirements:

  - based on cost, technical feasibility
  - current energy and air quality policies
  - greenhouse gas emissions reductions and trends

Committee Feedback Needed Today

1. What strategies should the State of California pursue?
2. What criteria should be applied to arriving at selected policy measures?
3. Which priority policies warrant in-depth evaluation?

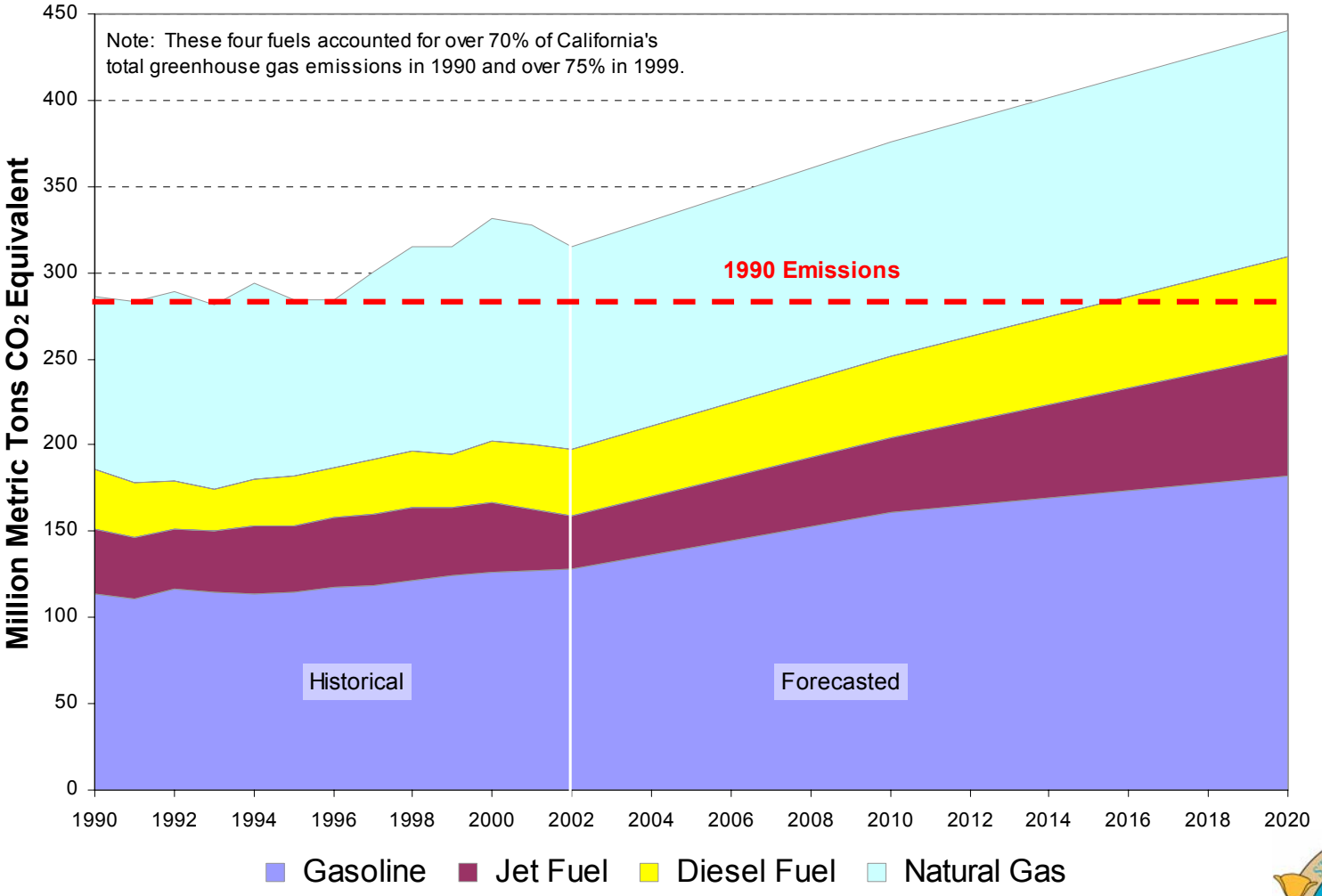
Greenhouse Gas Emissions Trends

- California emissions of greenhouse gases are large and growing in absolute terms, relative to other states.
- Population and economic growth are primary causes.
- Fossil fuel consumption comprises over 70% of total greenhouse gases today.
- Transportation Sector approaches 50 percent of total emissions.
- Power Sector 15 %, or 30 % if imported power is counted.

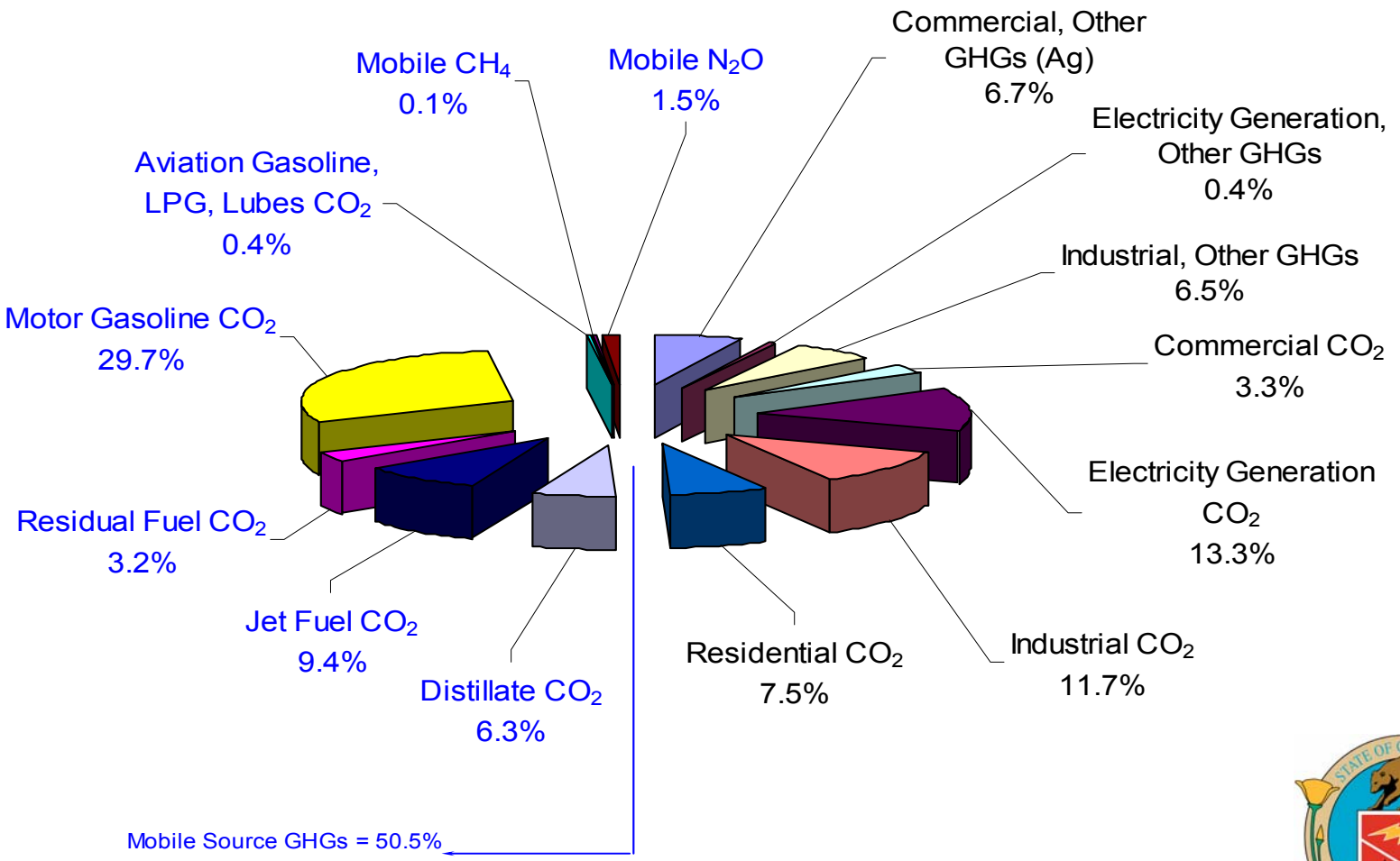
California Greenhouse Gases

- 1.4% of global greenhouse gases and 0.6% world population
- 6.2% of U.S. emissions and 12% U.S. population
- Global emissions rising much faster than CA emissions

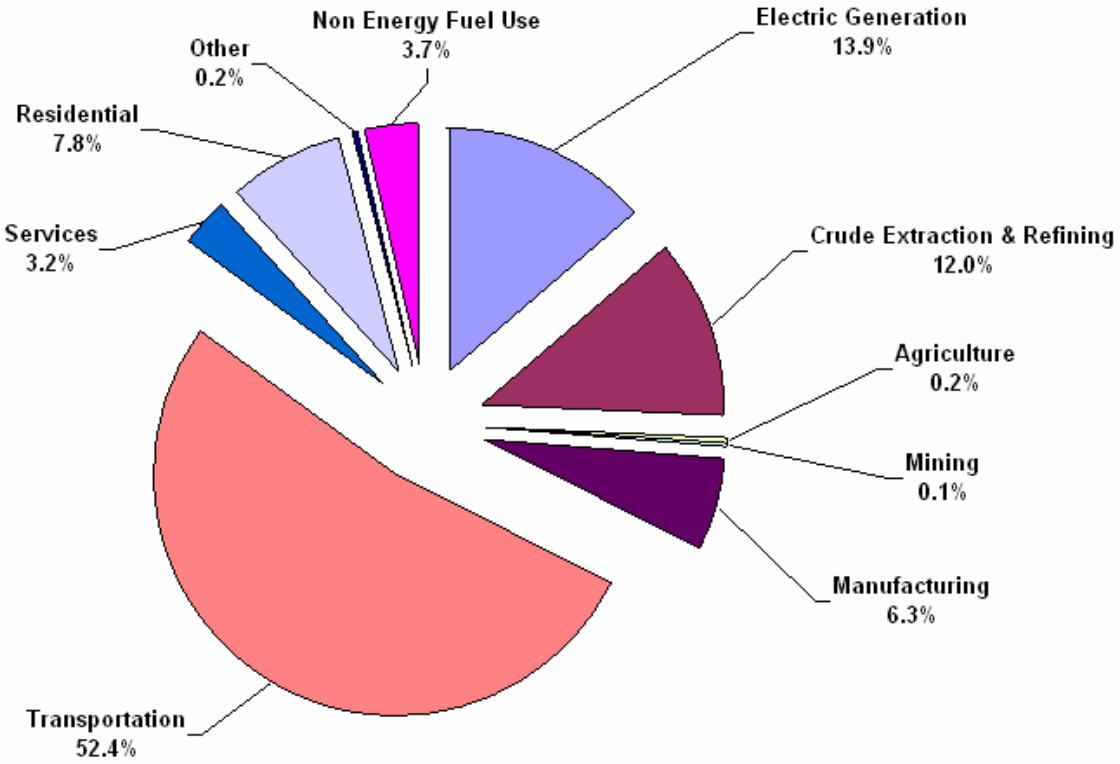
California's CO_2 Emissions



California's Greenhouse Gas Emissions
By End Use Sector and Fuel Type



California CO_2 Emissions--2000



Co-Benefits to Climate Change Policies

- Promote energy efficiency
- Accelerate renewable energy development
- Expand markets for alternative fuels
- Advance high-efficiency gas generation
- Improve forestry, solid waste, recycling and livestock management
- Reduce vehicle miles traveled

Recently Adopted Policy Initiatives

- AB 1493: Air Resources Board unanimously adopted rules to limit greenhouse gases from passenger cars and light-duty trucks.
- 2005 Building Standards: Energy Commission adopted progressive standards in November 2003 which yield significant energy savings.
- Renewable Portfolio Standard: 20% of utility retail sales of electricity, or an increase of at least 1% per year by 2017.
- California Climate Action Registry: existing law encourages participation in this voluntary organization and reporting of direct and indirect greenhouse gas emissions.

Proposed Policy Initiatives

- **Solar Homes**: Cal EPA and Resources Agency are collaborating on a draft proposal to increase solar power to new and existing homes.
- **2003 IEPR and Energy Action Plan**: accelerate RPS to 20% by 2010.
- **CPUC rulings**:
  - Utilities should account for climate change risk in long-term resource procurement.
  - Utilities should account for greenhouse gases avoided by energy efficiency and broaden participation in California's voluntary Registry.

2003 Energy Policy Recommendations

- The CEC should require reporting of GHG emissions as a condition of state licensing of new electric generating facilities. In process.
- Utilities should account for the costs of GHG emission reductions in utility resources procurement decision. Recent CPUC rulings were issued.
- State agencies should use sustainable energy and environmental designs in all state government buildings. East End example in Sacramento
- State agencies should incorporate climate change strategies in planning and policy documents. Progress noted with Cal Trans, CEC, CPUC, DWR and ARB.

West Coast Governor's Global Warming Initiative

- California, Oregon and Washington Governors announced the need for regional and state actions on global climate change in September 2003.
- Final recommendations to the Governors are planned during October 2004.
- Working group reports contain over 35 separate recommendations.
- Three states have agreed to consider establishing regional climate change goals.

Transportation: Policies Being Evaluated

1. Improve vehicle fuel economy in new vehicles.
2. Use alternative fuels, where cost-effective.
3. Reduce vehicle miles traveled through “smart growth” policies.
4. Find ways to reduce jet fuel use and fuel use in freight.
5. Expand public transit, including high speed rail.
6. Explore pricing options, such as fee-bates and pay-as-you-drive insurance.

Agriculture and Forestry Policies being Evaluated

1. Provide incentives for methane recovery and carbon sequestration.
2. Identify cost-effective energy conservation and low-carbon fuel use.
3. Fund R&D to develop cost-effective carbon sequestration options.
4. Encourage “best” forestry management and conservation practices (beyond those required).
5. Adopt reporting protocols to certify “real” emissions reductions through the Registry.

Residential and Industrial Policies

1. Adopt next generation of building and appliance standards.
2. Create incentives for combined heat and power.
3. Expand market for solar photovoltaic in new homes.
4. Use dynamic and “real time” pricing.

Power Generation and Utility Sector Policies

1. Increase funding for utility efficiency programs.
2. Accelerate the Renewable Portfolio Standard to 2010.
3. Remove transmission barriers to low-carbon generation.
4. Explore “cap and trade” or carbon allowances and benchmarks with offsets.

Summary: Committee Feedback Needed Today

1. What strategies should the State of California pursue?
2. What criteria should be applied to arriving at selected policy measures?
3. Which priority policies warrant further evaluation?

Discuss Criteria for Policy Selection

- Technical feasibility
- Cost or economic feasibility
- Emissions reduction potential
- Potential for co-benefits
- Political acceptability
- Practicality
- Ease of implementation
- Uncertainty and timing of benefits